WHAT IS CLAIMED IS:

1. A method for identifying compounds useful for the treatment, prevention, or diagnosis of a mitoNEET associated metabolic dysfunctional disease or condition, comprising the step of determining whether said compound interacts directly with mitoNEET.

2. The method of claim 1 wherein said mitoNEET associated metabolic dysfunctional disease or condition is selected from the group consisting of metabolic dysfuntion, diabetes, impaired glucose tolerance, obesity, a cardiovascular disorder, a cancer or tumor, a neurodegenerative disorder, or an inflammatory disorder.

3. The method of claim 2 wherein said method is for identifying compounds useful for the treatment, prevention, or diagnosis of non-insulin-dependent diabetes.

4. The method of claim 2 wherein said method is for identifying compounds useful for the treatment, prevention, or diagnosis of Alzheimer's or Parkinson's disease.

5. The method of claim 1 wherein in said step of determining whether the compound interacts directly with mitoNEET the step comprises the specific binding of a labeled thiazolodinedione analog.

6. The method of claim 5 wherein said labeled thiazolodinedione analog is PPARγ sparing.

7. The method of claim 6 wherein said thiazolodinedione analog is 4-azido-N-[2-({[6-(2-{4-[(2,4-dioxo-1,3-thiazolidin-5-yl)methyl]phenoxy}ethyl)pyridin-3-yl]acetyl}amino)ethyl]-2-hydroxybenzamide.

8. A method for treating or preventing a mitoNEET associated metabolic dysfunctional disease or condition comprising administrating to a mammal in need thereof a therapeutically effective amount of a compound identified by the method of claim 1.

9. The method of claim 8 wherein said mitoNEET associated metabolic dysfunctional disease or condition is selected from the group consisting of diabetes, impaired glucose tolerance, obesity, a cardiovascular

disorder, a cancer or tumor, a neurodegenerative disorder, or an inflammatory disorder

10. The method of claim 9 wherein said method is for treating non-insulin-dependent diabetes, atherosclerosis, hypertension, Alzheimer's or Parkinson's disease.

11. An antibody that immunospecifically-binds to a mitoNEET polypeptide.

12. A method of detecting differentially expressed genes correlated with a mitoNEET associated metabolic dysfunctional disease or condition of a mammalian cell, the method comprising the step of detecting at least one differentially expressed gene product in a test sample derived from a cell suspected of being from a mitoNEET associated metabolic dysfunctional disease or condition, where the gene product is encoded by a mitoNEET nucleic acid sequence, wherein detection of differentially expressed product is correlated with a mitoNEET associated metabolic dysfunctional disease or condition state of the cell from which the test sample was derived.

13. A method for monitoring the progression of a metabolic disorder in a patient, the method comprising:

a) detecting in a patient sample at a first point in time, the expression of a marker, wherein the marker is an isolated mitoNEET polypeptide;

b) repeating step a) at a subsequent point in time; and

c) comparing the level of expression detected in steps a) and b), and therefrom monitoring the progression of the metabolic disorder.

14. A method of assessing the efficacy of a test compound for correcting the metabolic disturbance, the method comprising comparing:

a) expression of a marker in a first sample obtained from a patient exposed to the test compound, wherein the marker is an isolated mitoNEET polypeptide or associated polypeptide, and

b) expression of the marker in a second sample obtained from the patient, wherein the sample is not exposed to the test compound, wherein a significantly lower level of expression of the marker in the

first sample, relative to the second sample, is an indication that the test compound is efficacious for treatment.

15. A method of selecting a compound for treating, preventing, or diagnosis of a mitoNEET associated metabolic dysfunctional disease or condition in a patient, the method comprising:

(a) obtaining a sample cells from said patient;

(b) separately exposing aliquots of the sample in the presence of a plurality of test compounds;

(c) comparing expression of a marker or post-translational modification of the marker in each of the aliquots, wherein the marker is selected from the group consisting of the markers of SEQ ID NO:4, SEQ ID NO:5, and SEQ ID NO:6, and

(d) selecting one of the test compounds that alters the level of expression of the marker in the aliquot containing that test compound, relative to other test compositions.